

WHAT IS CLAIMED IS:

1. A glass composition for fiber forming comprising, in percent by weight of total composition:

SiO ₂	50 – 54 percent
Al ₂ O ₃	12 – 15 percent
CaO	22 – 25 percent
MgO	1 – 4 percent
B ₂ O ₃	5 – 8 percent
Na ₂ O + K ₂ O	less than 2 percent
Fe ₂ O ₃	0.1 – 0.5 percent
F ₂	less than 0.1 percent

the glass having a forming window of at least 50°C and a forming temperature no greater than 1190°C.

2. The glass composition according to claim 1, wherein the B₂O₃ content is 5 to 6 weight percent

3. The glass composition according to claim 1 further including SrO, wherein MgO + SrO is 1 to 4 percent C.p

4. The glass composition according to claim 3 wherein MgO + SrO is from 1 to 3 weight percent.

5. The glass composition according to claim 2 wherein the constituents have the following relationship and the following values:

Al ₂ O ₃ / SiO ₂	greater than 0 to 0.50
RO = CaO + MgO + SrO	from 24.75 to 26.25
RO / (SiO ₂ + Al ₂ O ₃)	from 0.30 to 0.45
(R ₂ O + RO + B ₂ O ₃) / (SiO ₂ + Al ₂ O ₃)	from 0.40 to 0.55

where R₂O = weight percent of Na₂O + Li₂O + K₂O, when present in glass.

6. The glass composition according to claim 5 wherein the constituents have the following values:

$\text{Al}_2\text{O}_3 / \text{SiO}_2$ from 0.44 to 0.50

$\text{RO} = \text{CaO} + \text{MgO} + \text{SrO}$ from 25 to 26

$\text{RO} / (\text{SiO}_2 + \text{Al}_2\text{O}_3)$ from 0.35 to 0.40

$(\text{R}_2\text{O} + \text{RO} + \text{B}_2\text{O}_3) / (\text{SiO}_2 + \text{Al}_2\text{O}_3)$ from 0.45 to 0.50

where R_2O = weight percent of $\text{Na}_2\text{O} + \text{Li}_2\text{O} + \text{K}_2\text{O}$, when present in glass.

7. The glass composition according to claim 5 wherein the constituents are in the following weight percent:

SiO_2 52 to 54 weight percent

Al_2O_3 13 to 15 weight percent

CaO 23 to 25 weight percent

MgO 1 to 3 weight percent

SrO 0 to 3 weight percent

$\text{MgO} + \text{SrO}$ 1 to 3 weight percent

8. The glass composition according to claim 7, further including:

total iron 0.05 to 0.8 weight percent

SO_3 greater than 0 weight percent.

9. The glass composition according to claim 8, wherein the constituents have the following values:

$\text{Al}_2\text{O}_3 / \text{SiO}_2$ from 0.44 to 0.50

$\text{RO} = \text{CaO} + \text{MgO} + \text{SrO}$ from 25 to 26

$\text{RO} / (\text{SiO}_2 + \text{Al}_2\text{O}_3)$ from 0.30 to 0.45

$(\text{R}_2\text{O} + \text{RO} + \text{B}_2\text{O}_3) / (\text{SiO}_2 + \text{Al}_2\text{O}_3)$ from 0.45 to 0.50

where R_2O = weight percent of $\text{Na}_2\text{O} + \text{Li}_2\text{O} + \text{K}_2\text{O}$, when present in glass.

10. The glass composition according to claim 4, wherein the constituents comprise:

SiO ₂	52.86 to 54.33 weight percent
B ₂ O ₃	5.15 to 6.05 weight percent
Al ₂ O ₃	13.44 to 14.14 weight percent
CaO	23.42 to 24.16 weight percent
MgO	1.17 to 1.5 weight percent
SrO	0.12 to 0.15 weight percent
MgO + SrO	1.29 to 1.65 weight percent

11. The glass composition according to claim 10 additionally comprising:

Total iron	0.29 to 0.37 weight percent
SO ₃	greater than 0 weight percent,
K ₂ O	0.09 to 0.11 weight percent
TiO ₂	0.54 to 0.62 weight percent
Na ₂ O	0.41 to 0.91 weight percent
ZrO ₂	less than 0.1 weight percent

12. The glass composition according to claim 11, wherein the constituents have the following values:

Al ₂ O ₃ / SiO ₂	from 0.25 to 0.27
RO = CaO + MgO + SrO	from 25.02 to 25.68
RO / (SiO ₂ + Al ₂ O ₃)	from 0.37 to 0.3.8
(R ₂ O + RO + B ₂ O ₃) / (SiO ₂ + Al ₂ O ₃)	from 0.46 to 0.48

13. The glass composition according to claim 1, wherein the forming temperature is no more than 1185°C.

14. A woven fiber glass cloth wherein at lease one of the glass fiber has the composition of claim 1.

15. A printed circuit board comprising a woven fiber glass cloth wherein at least one of the glass fibers has the composition of claim 1.